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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/652,486	09/02/2003	Yuji Sano	122.1566	2761

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EXAMINER

EISEN, ALEXANDER

ART UNIT	PAPER NUMBER
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2629

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/30/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/652,486

Applicant(s)

SANO ET AL.

Examiner

Alexander Eisen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-39 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 31-36 and 38-39 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 31, which all other claims above are dependent from, recites the limitation "said respective electrodes", which does not have an antecedent basis in the claim. An appropriate correction will overcome this rejection.
3. Claims 35 and 36 have a similar problem, where "electrodes" on every occurrence have to be replaced by "electrode". To make the deletion of "s" clearly discernible it is suggested to cross out or bracket-in the whole word "electrodes", such as "~~electrodes~~ electrode" or "[[electrodes]] electrode" in order to avoid errors in the final claim language when a patent is eventually published.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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5. **Claims 31-35** are rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al., hereinafter Kim, USP 7,034,468.

With respect to claim 31 Kim discloses a plasma display apparatus comprising a plasma display panel (as in FIGS. 1a,b) having at least a pair of electrodes making up a capacitive load (10 in FIG. 3) and causing discharge to occur between the pair of electrodes; and a capacitive load drive circuit (100 in FIG. 3) connected to a respective electrode of the pair of electrodes and driving the capacitive load, wherein the capacitive load drive circuit has a coil circuit L connected between an output terminal (a node connecting L, Cs and SW4) to be connected to said respective electrodes (via switch SW4) and a reference potential Vss, and controls so that when the energy stored in the capacitive load is discharged, the energy is stored in the coil circuit and at the same time the energy is retained in the coil circuit while the current flowing through the coil circuit is increasing, and when the capacitive load is recharged, the stored energy is released while the current flowing through the coil circuit is decreasing (inherent to LC resonant circuit process).

As pertaining to claim 32, Kim further discloses a switch circuit SW5 for maintaining the discharge of the capacitive load until it is recharged, and a power supply switch circuit SW4 to maintain the charged state of the capacitive load until it is discharged again (see paragraphs [0027-29] and FIG. 3).

As pertaining to claim 33, Kim teaches that the switch circuit is comprised of one way conductive element (diode) – as can be seen from the embodiment in FIGS. 4 and 6, the switching circuits maintaining the discharged state (controlled by T6 and T4 respectively) include diodes.

As pertaining to claim 34, the power supply switch circuit SW4 is brought into a conductive state before the charging of the capacitive load is completed (as can be seen from FIG. 3, for example, none of the charging can occur before bringing the switch SW4 into a conductive state since the power supplying the charge would be disconnected).

As pertaining to claims 35, the energy is stored in the coil circuit via the respective electrodes when the energy stored in the capacitive load is discharged and the released energy is supplied to the capacitive load via the respective electrodes when the capacitive load is recharged (since these are the respective electrodes that define/possess the capacitive load).

6. **Claims 31-33, 35, 36 and 38-39** are rejected under 35 U.S.C. 102(b) as being anticipated by Okamura et al., hereinafter Okamura, USPub No. 2001/0029102.

With respect to claim 31 Okamura discloses a plasma display apparatus comprising a plasma display panel (such as 608 in FIG. 1) having at least a pair of electrodes (605-1 and 606-1) making up a capacitive load (C_p in FIG. 4) and causing discharge to occur between the pair of electrodes; and a capacitive load drive circuit (100 in FIG. 3) connected to a respective electrode of the pair of electrodes and driving the capacitive load, wherein the capacitive load drive circuit has a coil circuit L connected between an output terminal (a node connecting L , C_s and SW4) to be connected to said respective electrodes (via switch SW4) and a reference potential V_{ss} , and controls so that when the energy stored in the capacitive load is discharged, the energy is stored in the coil circuit and at the same time the energy is retained in the coil circuit while the current flowing through the coil circuit is increasing, and when the capacitive load is recharged, the stored energy is released while the current flowing through the coil circuit is decreasing.

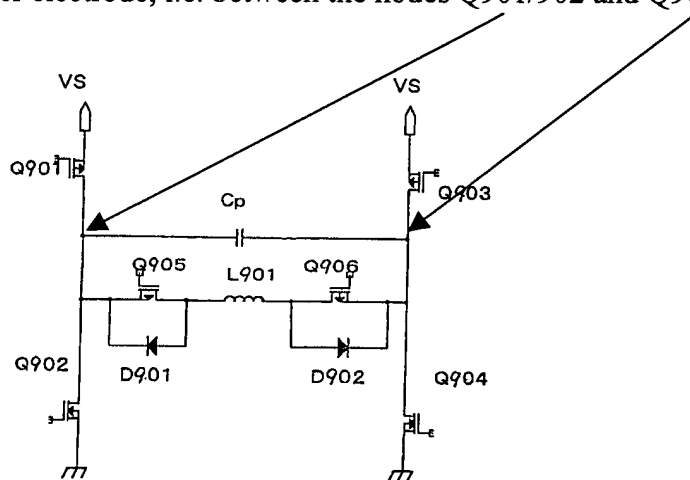
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As pertaining to claim 32, a switch circuit Q902/Q904 is capable of maintaining the discharge of the capacitive load C_p until it is recharged, and a power supply switch circuit Q901/Q903 is capable to maintain the charged state of the capacitive load until it is discharged again.

As pertaining to claim 33, the switch circuit is comprised of one way conductive element (diodes D901 –D902).

As pertaining to claims 35, the energy is stored in the coil circuit via the respective electrodes when the energy stored in the capacitive load is discharged and the released energy is supplied to the capacitive load C_p via the respective electrodes when the capacitive load is recharged (since these are the respective electrodes that define/possess the capacitive load).

As per claim 36, the capacitive load C_p is connected between the respective electrode and the other electrode, i.e. between the nodes Q901/902 and Q903/904, whereto the respective



electrode and the other electrode are connected (the driving circuit in FIG. 4 of the reference for all practical purposes is equivalent to that of the claimed invention in FIG. 22 of the disclosure, and as such is able to perform just in the same way).

As pertaining to claim 38, the capacitive load drive circuit further comprises a first switch circuit Q905 connected in series between an output terminal (on the left side of the coil L901 in FIG. 4) to be connected to said respective electrode (at the node Q901/Q902) and one end (left) of the coil circuit; a second switch circuit Q901 connected between a first end (left one) of the coil circuit and the reference potential VS; a third switch circuit Q903 connected between a second end (right one) of the coil circuit and the reference potential VS; wherein the first, second, and third switches are controlled to store energy in the coil circuit and to release the stored energy from the coil circuit.

As pertaining to claim 39, the capacitive load drive circuit further comprises a fourth switch circuit Q906 connected between the second end (the right one) of the coil circuit and an output terminal Q903/Q904.

7. **Claim 37** is rejected under 35 U.S.C. 102(e) as being anticipated by Iwami et al., USP 6,922,180.

With respect to claim 37 Iwami et al. discloses a plasma display apparatus (FIG. 2) comprising a plasma display panel having a plurality of scan electrodes Y_j and a plurality of address electrodes D_i arranged so as to intersect the scan electrodes; a scan electrode drive circuit 4 driving the plurality of scan electrodes; and an address electrode drive circuit 2 driving the plurality of address electrodes, wherein the address electrode drive circuit has a coil circuit L5 connected between an output terminal S31/S35 to be connected to the address electrode D_i and a reference potential $V_d/2$ (power supply B10) and controls so that when the energy stored in the capacitive load consisting of the address electrodes and the scan electrodes is discharged, the energy is stored in the coil circuit and at the same time the energy is retained in the coil circuit

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while the current flowing through the coil circuit is increasing, and when the capacitive load is recharged, the stored energy is released while the current flowing through the coil circuit is decreasing (see FIGS. 2-3 and relevant description in paragraphs [0017-38]).

Response to Arguments

8. Applicant's arguments with respect to claims 31-39 have been carefully considered but are believed to be answered by, and therefore moot in view of, the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Roh, US 6,617,802 (Figures 3, 5).

Kunio et al., JP 11-344952.

Kimball, US 5,313,141.

Young et al., US 4,958,105.

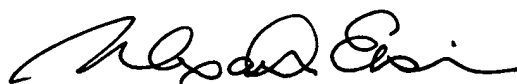
10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication should be directed to Alexander Eisen at telephone number (571) 272-7687.

A handwritten signature in black ink, appearing to read 'Alexander Eisen', with a stylized, cursive script.

Alexander Eisen
SPE
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